Kangley-Echo Lake

500-kV Transmission Line Project

Bonneville Power Administration is committed to providing reliable power to the Northwest region. BPA is proposing to build new infrastructure projects to improve the distribution of power to meet existing and future power needs. The Kangley-Echo Lake project is needed to improve system reliability in the King County area and to enhance the return of power to Canada as required by the Columbia River Treaty. This is one of several critical projects BPA has planned to solve power reliability problems in the Northwest.

Project Description

The Bonneville Power Administration is proposing to build the Kangley-Echo Lake 500 kilovolt (kV) transmission line, which would connect with BPA's existing Echo Lake Substation in the Maple Valley area of Washington. The proposed line is needed to improve system reliability in the King County area and to enhance the return of power to Canada as required by the Columbia River Treaty. Without system improvements, an outage on the existing BPA line could cause voltage instability and a loss of power in the Puget Sound area by winter 2003.

Adding new alternatives to be considered extends the time needed to make a decision on the alternatives and could increase the risk of not meeting the transmission needs of BPA's customers in the Puget Sound area. Planners predict that for the winter of 2003, the transmission system is about five percent over its capability to reliably meet the increased demand. This means there is an increased risk of forced curtailment of power that could occur during a severe weather event. By the winter of 2005, the region is at risk even during a "normal" cold winter.

Working with the Community

BPA outreach activities have focused on early involvement from elected officials, government agencies, Tribes, property owners, environmental interest groups and community organizations. These groups will continue to be involved in project decisions, including location and routing, assessment of environmental impacts and needed mitigation, and operating regimes. BPA is committed to preserving water quality in the Watershed, and protecting species outlined in the Habitat Conservation Plan to minimize design and construction impacts.

Proposed Alternatives

BPA has analyzed several transmission line routing alternatives in a supplemental draft environmental impact statement, including: routes inside and outside of the Cedar River Watershed, a no-action and non-transmission alternative. BPA's preferred transmission route is Alternative 1. This alternative is a 500-kV, nine-mile long single-circuit transmission line that would begin near the community of Kangley and would connect with BPA's existing Echo Lake Substation in Maple Valley, Washington (see map). The proposed line would be built next to an existing BPA 500-kV line and would require 47 new towers (average tower height is about 135 feet). Echo Lake Substation would be expanded and new equipment would be installed. This alternative would cross about 5 miles of the City of Seattle's Cedar River Municipal Watershed. See table and map on the next page for the descriptions of the proposed alternatives.

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ALTERNATIVES THAT WOULD NOT CROSS THE CEDAR RIVER WATERSHED

Alternative A
Construct a new single-circuit 500-kV line from a tap along the Schultz-Raver No. 2 line near Kangley to BPA's Covington Substation. Rebuild a portion of BPA's existing Covington - Maple Valley single circuit 230-kV transmission line with a double circuit 500-kV line, operating one side at 500-kV and the other at 230-kV. The 500-kV circuit would tap a vacant circuit of the Maple Valley - Echo Lake double-circuit 500-kV transmission line. New double-circuit towers, about 175 ft. tall, would support both circuits. The new transmission lines would be built on existing rights-of-way.

Alternative B
Rebuild about 38 miles of BPA's existing Rocky Reach-Maple Valley 345-kV transmission line to a double-circuit 500-kV line. The new towers would be about 175-ft. tall. The new 500-kV line would be connected to the existing Schultz-Raver No. 2 500-kV transmission line just east of Stampede Pass and to Echo Lake Substation at the west end. The line would cross I-90 twice. Almost all of this route would be on existing right-of-way.

Alternative C
Construct a new single-circuit 500-kV line near the community of Kangley or from BPA's Raver Substation on mostly new 150-foot wide right-of-way. New towers would be about 135 ft. tall. The new line could pass through the Ravensdale and Hobart areas and would be connected to an existing vacant (unused) Echo Lake-Maple Valley 500-kV circuit. The vacant circuit would then need to be connected to a new bay in the Echo Lake Substation. This option would require the purchase of new right-of-way.

Alternative D
Construct a new single-circuit 500-kV transmission line from east of Stampede Pass to Echo Lake Substation. The new line would be adjacent to the existing Rocky Reach-Maple Valley 345-kV line. New towers would be about 135 ft. tall. The line would cross I-90 twice. A new 150-foot wide right-of-way would need to be acquired.

ALTERNATIVES THAT WOULD CROSS THE CEDAR RIVER WATERSHED

Alternative 1
Construct a new single-circuit 500-kV transmission line from a tap point on BPA's Schultz-Raver No. 2 500-kV line near Kangley, to its Echo Lake Substation. This line would run parallel to an existing BPA line and be about 9 miles long. BPA would acquire a new 150-ft. wide right-of-way for the line (see map). New towers would be about 135 ft. tall.

Alternative 2
Construct a new single-circuit 500-kV line starting about 1.5 miles east of Alternative 1. The line would traverse northwest about 3 miles before continuing north paralleling the existing Raver-Echo Lake transmission line into Echo Lake Substation. This alternative would be about 9 miles long. BPA would acquire a new 150-ft. wide right-of-way for the line (see map). New towers would be about 135 ft. tall.

Alternative 3
Construct a new single-circuit 500-kV line beginning at the same point as Alternative 2. From this point, it would traverse northeast, then turn north, west of Echo Lake Substation. This line would be about 10 miles long, or about 1-1/4 miles longer than Alternative 1. BPA would acquire a new 150-ft. wide right-of-way for the line (see map). New towers would be about 135 ft. tall.

Alternative 4A
Construct a new single-circuit 500-kV line beginning at the same point as Alternative 2. About one-third of the way along Alternative 2, this alternative turns northwest and follows the same alignment as Alternative 1. This line would be about 9 miles long. BPA would acquire a new 150-ft. wide right-of-way for the line (see map). New towers would be about 135 ft. tall.

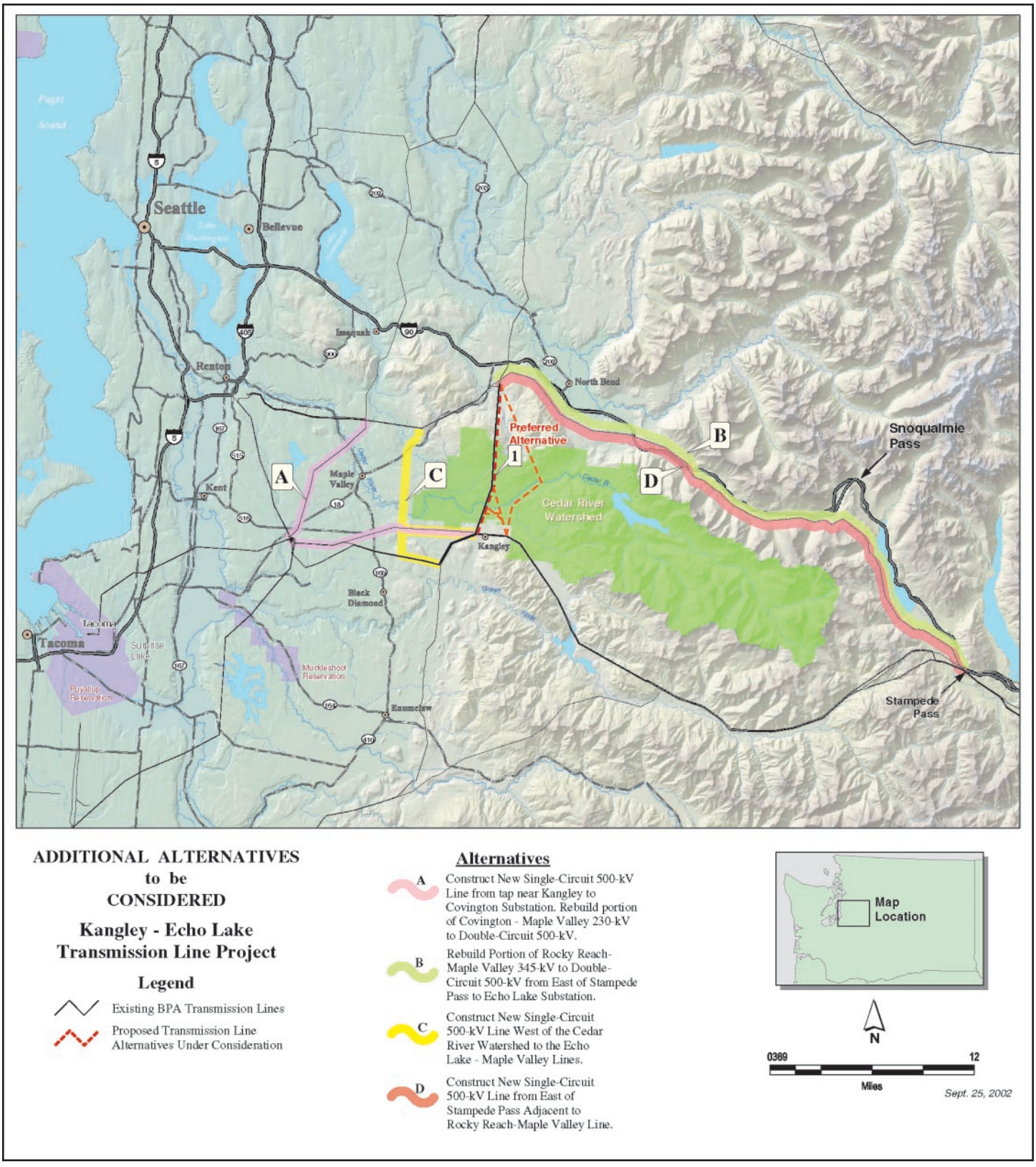
Alternative 4B
Construct a new line beginning at the same point as Alternative 2. About half way along Alternative 2, this alternative would traverse southwest to connect with Alternative 1. This line would be about 9 miles. BPA would acquire a new 150-ft. wide right-of-way for the line (see map). New towers would be about 135 ft. tall.

NON-TRANSMISSION ALTERNATIVE

Analyze the cost effectiveness of a broad range of alternatives including Demand-Side Management, Distributed Generation, large scale Generation, and Demand Response and Direct Load Control that might defer the need for a new 500-kV transmission line.

NO ACTION ALTERNATIVE

No new line would be built.



This map shows the proposed routes for a new 500-kV transmission line, primarily on existing right-of-way.

Environmental Planning

As BPA begins to design this project, special attention will be paid to minimize disruption to people, habitat, farm and harvesting activities, and business operations. An environmental impact statement (EIS) has been developed for this project to look at alignment alternatives and mitigation issues. The EIS focuses on protecting, restoring and enhancing the natural environment and requesting public comment on project alternatives. Some of the key project milestones to date include:

- **Scoping.** BPA held public meetings in 2000 to identify possible issues and concerns on the project. BPA continues to meet with local, state, and federal agencies and Tribes to resolve project issues.
- **Draft Environmental Impact Statement (EIS).** BPA completed a draft EIS and released it for public review in June 2001. The draft EIS recommended ways to reduce adverse effects. BPA held a public meeting in August 2001 to receive comments.
- **Supplemental draft EIS.** BPA heard concerns from citizens and environmental groups about the proposed line being constructed in the Cedar River Municipal Watershed. Based on those concerns, BPA produced a supplemental draft EIS that reviewed in more detail all of the alternatives. The SDEIS was released on January 14, 2003 followed by public meetings in February.
- **Final Environmental Impact Statement (EIS).** The final EIS will respond to comments received on the draft EIS and the supplemental draft EIS. The final EIS is scheduled for release in July 2003.
- **Decision.** If BPA decides to proceed, project construction could start as early as the end of August 2003 and be completed by December 2003. The line would be energized immediately thereafter.

Funding and Schedule

BPA will fully fund this project. Based on the environmental studies, additional technical analysis and public input, BPA's Administrator will decide how to proceed on the project. If BPA decides to construct a new 500-kV transmission line, it could be energized in winter 2003.

Questions or Comments

If you have questions or would like more information about the project, please contact BPA Project Manager Lou Driessen toll free at 1-888-276-7790 or visit BPA's Web site at **www.transmission.bpa.gov/projects**.

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